

Claims

1. a sustained-release composition containing a
biologically active substance or salt thereof, a
5 hydroxynaphthoic acid or salt thereof, and a biodegradable
polymer or salt thereof.

2. a sustained-release composition according to
claim 1 wherein the biologically active substance is a
biologically active peptide.

10 3. a sustained-release composition according to
claim 2 wherein the biologically active peptide is an LH-
RH derivative.

4. a sustained-release composition according to
claim 1 wherein the hydroxynaphthoic acid is 3-hydroxy-2-
15 naphthoic acid.

5. a sustained-release composition according to
claim 1 wherein the biodegradable polymer is an α -
hydroxycarboxylic acid polymer.

20 6. a sustained-release composition according to
claim 5 above wherein the α -hydroxycarboxylic acid polymer
is a lactic acid-glycolic acid polymer.

7. a sustained-release composition according to
claim 6 wherein the content ratio of lactic acid and
glycolic acid is 100/0 to 40/60 mol%.

25 8. a sustained-release composition according to
claim 7 wherein the content ratio of lactic acid and
glycolic acid is 100/0 mol%.

9. a sustained-release composition according to
claim 6 wherein the weight-average molecular weight of the
30 polymer is about 3,000 to about 100,000.

10. a sustained-release composition according to
claim 9 wherein the weight-average molecular weight of the
polymer isw about 20,000 to about 50,000.

11. a sustained-release composition according to
35 claim 3, wherein the LH-RH derivative is a peptide
represented by the formula:

5-oxo-Pro-His-Trp-Ser-Tyr-Y-Leu-Arg-Pro-Z

wherein Y represents DLeu, DAla, DTrp, DSer(tBu), D2Nal or DHis(ImBzl); Z represents NH-C₂H₅ or Gly-NH₂,

12. a sustained-release composition according to
5 claim 6, wherein the terminal carboxyl group content of the polymer is 50-90 micromol per unit mass (gram) of the polymer.

13. a sustained-release composition according to
claim 3, wherein the molar ratio of the hydroxynaphthoic
10 acid or salt thereof and the LH-RH derivative or salt thereof is from 3 to 4 to 4 to 3.

14. a sustained-release composition according to
claim 13, wherein the LH-RH derivative or salt thereof is
contained at 14% (w/w) to 24% (w/w).

15 15. a sustained-release composition according to
claim 1, wherein the bioactive substance or salt thereof
is very slightly soluble in water or soluble in water.

16. a sustained-release composition according to
claim 1, which is intended for injection.

20 17. a method of producing the sustained-release
composition according to claim 1, comprising removing the
solvent from a mixture of a bioactive substance or salt
thereof, a biodegradable polymer or salt thereof, and
hydroxynaphthoic acid or a salt thereof.

25 18. a method of producing the sustained-release
composition according to claim 17, comprising mixing and
dispersing a bioactive substance or salt thereof in an
organic solvent solution containing a biodegradable
polymer or salt thereof and hydroxynaphthoic acid or a
30 salt thereof, and subsequently removing the organic
solvent.

19. a method of producing the sustained-release
composition according to claim 18, wherein the bioactive
substance or salt thereof is in the form of an aqueous
35 solution.

20. a production method according to claim 17,

wherein the salt of the bioactive substance is a salt with a free base or acid.

21. a pharmaceutical containing the sustained-release composition according to claim 1.

5 22. an agent for preventing or treating of prostatic cancer, prostatic hypertrophy, endometriosis, hystero-myoma, metrofibroma, precocious puberty, dysmenorrhea, or breast cancer, or a contraceptive, containing the sustained-release composition according to claim 3.

10 23. a sustained-release composition containing the hydroxynaphthoate of a bioactive substance and a biodegradable polymer or salt thereof.

 24. a method of suppressing bioactive substance initial burst from a sustained-release composition,
15 comprising using hydroxynaphthoic acid or a salt thereof.

 25. a method of increasing the efficiency of bioactive substance inclusion in a sustained-release composition, comprising using hydroxynaphthoic acid or a salt thereof.

20 26. a hydroxynaphthoate of a bioactive peptide.

 27. a hydroxynaphthoate of a bioactive peptide according to claim 26, which is soluble in water or very slightly soluble in water.

 28. a sustained-release composition containing the
25 hydroxynaphthoate of a bioactive peptide.